



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/549,694	06/24/2006	Peter Malm	0110-059	9604
42015	7590	05/01/2008	EXAMINER	
POTOMAC PATENT GROUP PLLC P. O. BOX 270 FREDERICKSBURG, VA 22404				KHAN, MEHMOOD B
ART UNIT		PAPER NUMBER		
2617				
NOTIFICATION DATE			DELIVERY MODE	
05/01/2008			ELECTRONIC	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

tammy@ppglaw.com

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/549,694	MALM, PETER	
	<b>Examiner</b>	<b>Art Unit</b>	
	MEHMOOD B. KHAN	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 17 November 2006.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-32 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/17/2006</u> .  | 6) <input type="checkbox"/> Other: _____ .                        |

**DETAILED ACTION*****Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-4, 16-18, and 29-32 are rejected under 35 U.S.C. 102(e) as being anticipated by Lundby et al. (US 2002/0110088 herein Lundby).

Claim 1, Lundby discloses a method for providing link adaptation in a wireless communication system (**0027, where Lundby discloses link adaptation**), Lundby discloses obtaining in a current link quality measure of a communication link (**0035, where Lundby discloses measurement of link quality at a remote station**); Lundby discloses determining a Signal-to-Interference Ratio (SIR) value of the communication link (**0035, where Lundby discloses Carrier to Interference ration (C/I)**); Lundby discloses correcting the current link quality measure based on the determined value (**0042, where Lundby discloses adjusting the C/I value**).

Claim 17, Lundby discloses an electronic communication apparatus for supporting link adaptation of a communication link (**0027, where Lundby discloses link adaptation**), Lundby discloses a receiver; a transmitter unit; a memory (**0025, 0066, where Lundby discloses transmitting to and receiving from a base station and memory**); a measurement unit for determining a current link quality measure of a communication link (**0035, Fig. 3A: 204**,

**where Lundby discloses measurement of link quality at a remote station); Lundby inherently discloses a controller (Since Lundby discloses a remote station, i.e. a cell phone); Lundby discloses a correction unit adapted to determine a SIR value of the communication link (0035, where Lundby discloses Carrier to Interference ration (C/I)); Lundby discloses to correct the current link quality measure based on the determined value (0042, where Lundby discloses adjusting the C/I value).**

Claim 32, Lundby discloses a computer program product directly loadable into the memory of a mobile terminal having digital computer capabilities, comprising software code portions for performing the following steps of when said product is run by said mobile terminal (0066, where Lundby discloses software on memory): Lundby discloses obtaining in a current link quality measure of a communication link (0035, where Lundby discloses measurement of link quality at a remote station); Lundby discloses determining a Signal-to-Interference Ratio (SIR) value of the communication link (0035, where Lundby discloses Carrier to Interference ration (C/I)); Lundby discloses correcting the current link quality measure based on the determined value (0042, where Lundby discloses adjusting the C/I value).

Claim 2, Lundby discloses wherein the SIR value is determined in a receiving unit based on a SIR value induced by unmatched physical layer transmission parameter settings of a transmitting unit and a receiving unit (0037, where Lundby discloses out of synchronization).

Claim 3, Lundby discloses transmitting a link quality report being based on the corrected link quality measure (0042, where Lundby discloses transmitting a quality message).

Comment [MBK1]: quality message is read as a quality link report

Claim 4, Lundby discloses estimating for a reporting interval the SIR of a signal received over the communication link, said SIR is used to form the current link quality measure (0040, where Lundby discloses T<sub>MESSAGE</sub>).

Claim 16, as analyzed with respect to the limitations as discussed in claim 1.

Claim 18, as analyzed with respect to the limitations as discussed in claim 4.

Claim 29, as analyzed with respect to the limitations as discussed in claim 1.

Claim 30, Lundby discloses wherein the apparatus is a mobile radio terminal (0024, where Lundby discloses a wireless phone).

Claim 31, as analyzed with respect to the limitations as discussed in claim 30.

#### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject

matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lundby et al. (US 2002/0110088 herein Lundby) in view of Walton et al. (US 6,751,187 herein Walton).

Claim 5, Lundby does not disclose wherein the discrepancy between desired transmission parameter settings and used transmission parameter settings is utilized to determine the SIR value.

In an analogous art, Walton discloses wherein the discrepancy between desired transmission parameter settings and used transmission parameter settings is utilized to determine the SIR value (**Col 5: 15-18, where Walton discloses matching modulation and coding to SNRs**). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lundby to include matching SNRs and modulation and coding as taught in Walton so as to simplify coding and modulation and demodulation and decoding at the transmitter and receiver, respectively.

Claim 19, as analyzed with respect to the limitations as discussed in claim 5.

5. Claims 6-8, 10, 11, 14, 15, 20-22, 24, 25, 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lundby et al. (US 2002/0110088 herein Lundby) in view of 3GPP TR 25.858 V1.0 (2001-09) herein TR 25.858.

Claim 6, Lundby does not disclose wherein a transmission parameter indicator for indicating the transmission parameters used for a subsequent transmission of data over a physical channel in a transmission interval is utilized for determining the SIR value of the transmission interval.

In an analogous art, TR 25.858 discloses wherein a transmission parameter indicator for indicating the transmission parameters used for a subsequent transmission of data over a physical channel in a transmission interval is utilized for determining the SIR value of the transmission interval (**8.2.2.2.3, where TR 25.858 discloses a TFRC list**). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lundby to include a TFRC indicator as taught by TR 25.858 so as to adhere to a well known and practiced standard to reap short- and long-term cost-savings and competitive benefits.

Claim 7, Lundby does not disclose an index to address a look-up table for retrieving a corresponding SIR value.

In an analogous art, TR 25.858 discloses, an index to address a look-up table for retrieving a corresponding SIR value (**8.2.2.2.4, where TR 25.858 discloses a TFRC and power offset**). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lundby to include a TFRC indicator as taught by TR 25.858 so as to adhere to a well known and practiced standard to reap short- and long-term cost-savings and competitive benefits.

Claim 8, Lundby discloses wherein a discrepancy value is determined for the reporting interval (**0036, where Lundby discloses a differential indicator**), Lundby discloses which is based on the difference between the SIR value retrieved from the look-up table (**0041, 0042, where Lundby discloses historical C/I measurements and generation of “DIFF”**), Lundby discloses a previous SIR value that was used to form the previous link quality report (**0039, where Lundby discloses a proj\_C\_I**), Lundby discloses the discrepancy value is added to the

current link quality measure to form the corrected link quality measure (**Fig. 3B: 310 and 312, where Lundby discloses adjusting the proj\_C\_I and transmitting the proj\_C\_I**).

Claim 10, Lundby discloses wherein a discrepancy value is determined for the reporting interval (0036, where Lundby discloses a differential indicator), Lundby discloses which is based on a SIR estimation of a signal of a transmission interval transmitted over a pilot channel (0035, where Lundby discloses quality measurement of a pilot channel), ref1 discloses corrected for any power gain factor and the SIR value retrieved from the look-up table (0041, 0042, where Lundby discloses historical C/I measurements and “DIFF”), and the discrepancy value is added to the current link quality measure to form the corrected link quality measure (**Fig. 3B: 310 and 312, where Lundby discloses adjusting the proj\_C\_I and transmitting the proj\_C\_I**).

**Comment [MBK2]:** Logic here states that since there will be historical C/I, a table is implicit as well as adding and subtracting from the measures C/I during the interval, power gain is rejected since the measurements can be on the data channel as well.

Claim 11, as analyzed with respect to the limitations as discussed in claim 10.

Claim 14, Lundby does not disclose mapping the corrected current link quality measure against transmission parameter indicators stored in a look-up table, wherein the corrected link quality measure is used to address said look-up table; retrieving a transmission parameter indicator that matches the corrected link quality measure; and incorporating the retrieved transmission parameter indicator into the link quality report.

In an analogous art, TR 25.858 discloses mapping the corrected current link quality measure against transmission parameter indicators stored in a look-up table (**8.2.2.2.1, 8.2.2.2.3, 8.2.2.2.4, where TR 25.858 discloses comparison of BLER with TFRCx**), TR 25.858 discloses wherein the corrected link quality measure is used to address said look-up

table (8.2.2.2.1, 8.2.2.2.3, 8.2.2.2.4, where TR 25.858 discloses comparison of BLER with TFRCx); TR 25.858 discloses retrieving a transmission parameter indicator that matches the corrected link quality measure; and incorporating the retrieved transmission parameter indicator into the link quality report (8.2.2.2.1, where TR 25.858 discloses sending the parameter back to the network).

Claim 15, as analyzed with respect to the limitations as discussed in claim 14.

**Comment [MBK3]:** the two tables in TR 25.858 disclose block set size.

Claim 20, as analyzed with respect to the limitations as discussed in claim 6.

Claim 21, as analyzed with respect to the limitations as discussed in claim 7.

Claim 22, as analyzed with respect to the limitations as discussed in claim 8.

Claim 24, as analyzed with respect to the limitations as discussed in claim 10.

Claim 25, as analyzed with respect to the limitations as discussed in claim 11.

Claim 27, as analyzed with respect to the limitations as discussed in claim 14.

Claim 28, as analyzed with respect to the limitations as discussed in claim 15.

6. Claims 9, 12, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lundby et al. (US 2002/0110088 herein Lundby) in view of 3GPP TR 25.858 V1.0 (2001-09) herein TR 25.858 in view of Oestreich (US 2003/0003875).

Claim 9, Lundby in view of TR 25.858 does not disclose wherein the discrepancy value is a filtered discrepancy value, which is based on a SIR value of each transmission interval of a reporting interval and a previous SIR value that was used to form the previous link quality report.

In an analogous art, Oestreich discloses wherein the discrepancy value is a filtered discrepancy value, which is based on a SIR value of each transmission interval of a reporting interval and a previous SIR value that was used to form the previous link quality report (**Fig. 3: dBER and sliding BER, added to the SIR at different intervals**). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lundby in view of TR 25.858 to include using a dBER and sliding BER as taught by Oestreich so as to reduce interference and improve transmission power control (0008, 0009).

Claim 12, as analyzed with respect to the limitations as discussed in claim 9.

Claim 13, as analyzed with respect to the limitations as discussed in claim 9.

Claim 23, as analyzed with respect to the limitations as discussed in claim 9.

Claim 26, as analyzed with respect to the limitations as discussed in claim 12.

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MEHMOOD B. KHAN whose telephone number is (571)272-9277. The examiner can normally be reached on Monday - Friday 8:30 am - 5:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on 571-272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mehmood B. Khan/  
Examiner, Art Unit 2617

/Lester Kincaid/  
Supervisory Patent Examiner, Art Unit 2617